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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,839	06/22/2006	Mark Steven Shearman	T1618P	3711

210 7590 09/18/2009

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EXAMINER	
CLAYTOR, DEIRDRE RENEE	
ART UNIT	PAPER NUMBER
1617	
MAIL DATE	DELIVERY MODE
09/18/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/549,839	SHEARMAN ET AL.	
	Examiner	Art Unit	
	Renee Claytor	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 12-33 are pending and are under examination herein.

Priority

This application is a National Stage Entry of PCT/GB04/00983 filed on 3/8/2004 and claims priority to U.S. Provisional Application 60/454,589 filed on 3/14/2003. Applicant's priority is acknowledged.

Claim Rejections – 35 U.S.C. 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 19-27 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for administering the compound of formula I for the treatment of cognition or Alzheimer's disease, does not reasonably provide enablement for the prevention, retardation or arresting the accumulation of insoluble Aβ in the brain of the patient suffering from age-related cognitive decline or mild cognitive impairment or the prevention of Alzheimer's disease. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The instant specification fails to provide information that would allow the skilled artisan to practice the instant invention without undue experimentation. Attention is

directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors: (1) the nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary.

1) The nature of the invention and breath of the claims: Instant claim 19 is drawn to treatment of age-related cognitive decline or mild cognitive impairment comprising preventing, retarding or arresting the accumulation of insoluble Aβ in the brain of the patient suffering from age-related cognitive decline or mild cognitive impairment or the prevention of Alzheimer's disease following administration of the compound of formula I and instant claims 20-33 are drawn to a method for preventing or delaying the onset of Alzheimer's disease or dementia associated with Alzheimer's disease following treatment with the compound of Formula I.

2) The amount of direction or guidance presented and the presence or absence of working examples: The specification teaches that the compound of Formula I is a growth hormone secretagogue, which have been implicated in cognition and Alzheimer's disease. The specification further teaches administration of a 25 mg tablet according to the invention to a subject having mild cognitive impairment. However, there is no teaching that following treatment there is total prevention of

Alzheimer's disease or total prevention, retardation or arresting of the accumulation of insoluble Aβ in the brain of the patient suffering from age-related cognitive decline or mild cognitive impairment.

The "amount of guidance or direction" refers to that information in the application, as originally filed, that teaches how to make or use the invention. The more that is known in the prior art about the nature of the invention, how to make, and how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification. In contrast, if little is known in the prior art about the nature of the invention and the art is unpredictable, the specification would need more detail as to how to make and use the invention in order to be enabling. >See, e.g., Chiron Corp. v. Genentech Inc., 363 F.3d 1247, 1254, 70 USPQ2d 1321, 1326 (Fed. Cir. 2004).

3) The state of the prior art: The state of the art regarding the treatment of Alzheimer's disease and cognitive decline is high. Kedar (J Postgrad Med 2003; 49: 236-245). Kedar teaches the various mechanisms that are known and thought to contribute to Alzheimer's disease (see entire paper). There are no known effective preventive strategies for Alzheimers according to Kedar (see page 241, under heading Prevention strategies for PD and AD).

4) The quantity of experimentation necessary: "A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue

experimentation. In re Wright, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed Cir. 1993)". Undue experimentation would be required in order to practice Applicant's invention because there are no examples provided in the specification. One would have to determine a useful model that correlates with clinical efficacy, a dosage range would need to be determined as well as a route of administration. Further, if any of the above failed, then the artisan would have to start over again in an effort to determine the suitable methods, dosage ranges and routes of administration in which to determine if the compounds will work to treat the disorders listed.

Claim Rejections – 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-33 rejected under 35 U.S.C. 103(a) as being unpatentable over Draper et al. (US Patent 5,767,124) in view of Smith (Curr Opinion in Chem Biol, 2000, Vol. 4, No. 4, pages 371-376).

Draper et al. teaches treating medical conditions which are improved by the anabolic effects of growth hormone following administration of the compound of formula I of instant claim 12 (Col. 2, lines 48-65). Draper et al. teaches that the known and potential uses of growth hormone are varied and multitudinous and include the treatment of Alzheimer's disease (Col. 16, lines 25-50 and col. 17, lines 27-34).

Draper et al. does not specifically exemplify a treatment for Alzheimer's with the compound of Formula I or the age of the person in need of treatment.

Smith teaches drug targets to benefit the elderly because growth hormone (GH) is attenuated during aging and has the potential to improve quality of life in the elderly (see Introduction). Smith discusses that the GH secretagogoue receptor is expressed in areas of the brain involved with cognition, memory, learning, mood and biological rhythms and testing is occurring with MK-677 (which is the compound of formula I of the instant invention) to determine the beneficial effects to treat the decline in function of the central nervous system during ageing (see Introduction). Smith discusses that treatment of MK-677 can resort pulsatile GH and IGF-1 to levels typical for that of subjects in their late twenties (see The GHS-R as a target). Smith discusses that Aβ plaque formation is associated with progressive mental decline (see Alzheimer's disease).

Accordingly, it would be obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Draper et al., who teaches the treatment of such disorders as Alzheimer's with the compound of formula I (MK-677), with the teachings of Smith who reiterates the involvement of GH in disorders of the elderly. One would be motivated to combine the teachings because of the well documented involvement of GH in cognition, memory, learning, mood and biological rhythms and also in Alzheimer's in particular (as discussed in both prior art references).

Conclusion

No claims are allowed.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renee Claytor whose telephone number is (571)272-8394. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Renee Claytor

/SREENI PADMANABHAN/

Supervisory Patent Examiner, Art Unit 1617